Connecting the SBAC to the Montana Content Standards and Effective Instruction

Bozeman Public Schools

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Questions to ponder: In your role as a teacher, administrator, curriculum director or other role…

How have state summative assessments impacted your practice/instruction in the past?

Do you believe your perspective will change with the SBAC? And if so, how?

Overview of today:

- Review of the structure and design of SBAC assessments to our Standards
- Understanding how students will be scored—Depths of Knowledge
- Implications for instruction (throughout)
- Technology (changes in instructional practice)

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Approach

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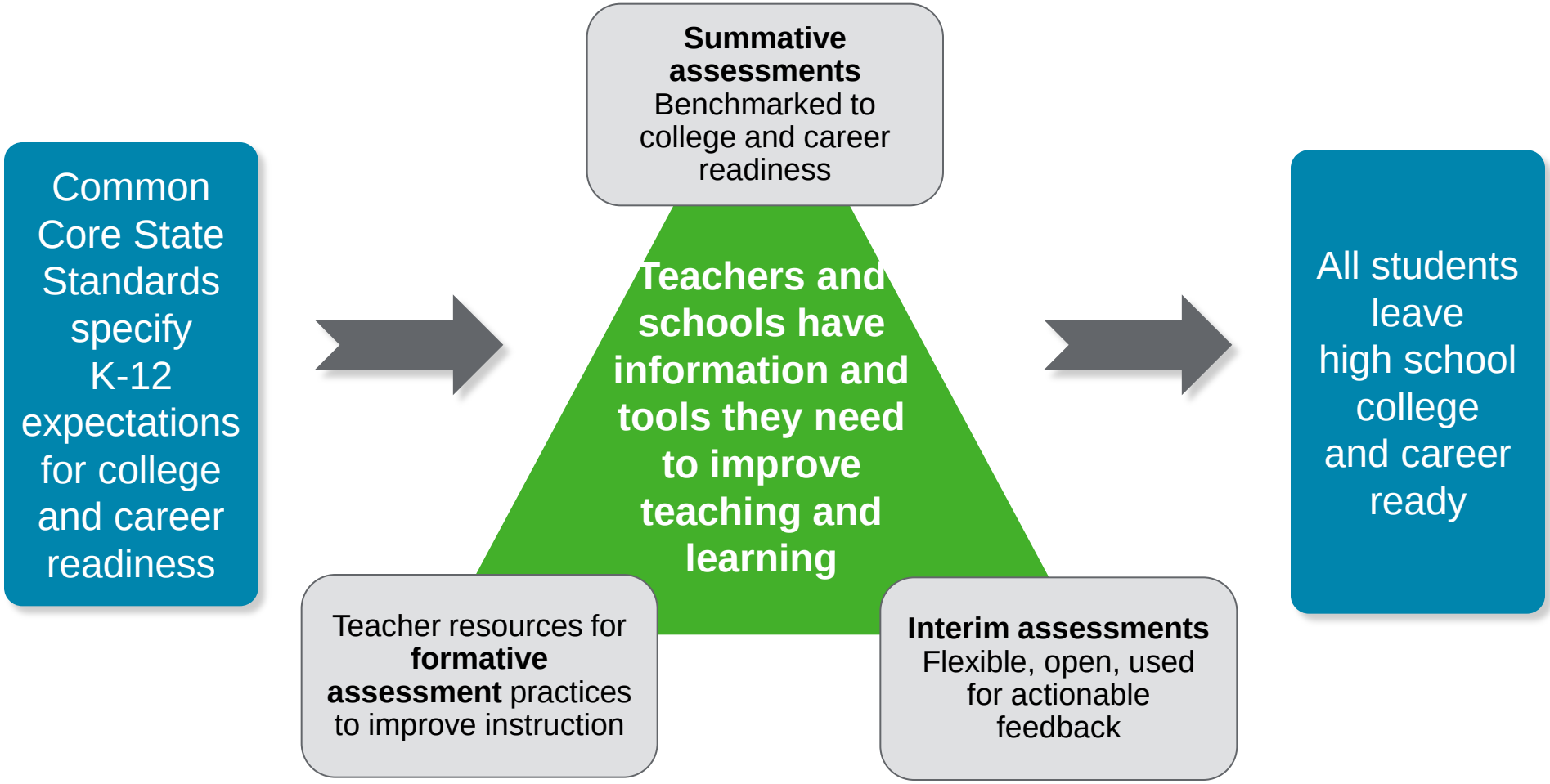
A Balanced Assessment System



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Six Item Types

- Selected Response
- Constructed Response
- Extended Response
- Performance Tasks
- Technology-Enabled
- Technology-Enhanced

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Selected Response

Single Response – Multiple Choice

Many experts will tell you that television is bad for you. Yet this is an exaggeration. Many television programs today are specifically geared towards improving physical fitness, making people smarter, or teaching them important things about the world. The days of limited programming with little interaction are gone. Public television and other stations have shows about science, history, and technical topics.

Which sentence should be added to the paragraph to state the author's main claim?

A. Watching television makes a person healthy.

B. Watching television can be a sign of intelligence.

C. Television can be a positive influence on people.

D. Television has more varied programs than ever before.

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Selected Response

Multiple Correct Options

Which of the following statements is a property of a rectangle? Select all that apply.

- ☐ Contains three sides
- ☐ Contains four sides
- ☐ Contains eight sides
- ☐ Contains two sets of parallel lines
- ☐ Contains at least one interior angle that is acute
- ☐ Contains at least one interior angle that is obtuse
- ☐ All interior angles are right angles
- ☐ All sides have the same length
- ☐ All sides are of different length

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Constructed Response

The table below shows the number of students in each third-grade class at Lincoln School.

Students in Third-Grade	
Class	**Number of Students**
Mrs. Roy	24
Mr. Grant	21
Mr. Harrison	22
Ms. Mack	25

There are 105 fourth-grade students at Lincoln School. How many more fourth-grade students than third-grade students are at Lincoln School? Show or explain how you found your answer.

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Constructed Response

Extended Response

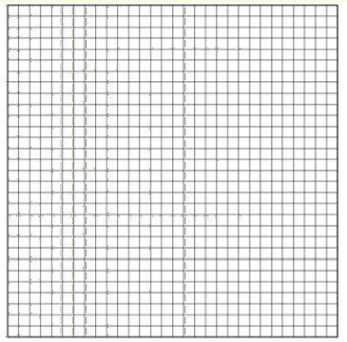
Ms. McCrary wants to make a rabbit pen in a section of her lawn. Her plan for the rabbit pen includes the following:

- It will be in the shape of a rectangle.
- It will take 24 feet of fence material to make.
- Each side will be longer than 1 foot.
- The length and width will measure whole feet.

Part A

Draw 3 **different** rectangles that can each represent Ms. McCrary's rabbit pen. Be sure to use all 24 feet of fence material for each pen.

Use the grid below. Click the places where you want the corners of your rectangle to be. Draw one rectangle at a time. If you make a mistake, click on your rectangle to delete it. Continue as many times as necessary.



Use your keyboard to type the length and width of each rabbit pen you draw. Then type the area of each rabbit pen. Be sure to select the correct unit for each answer.

[Students will input length, width, and area for each rabbit pen. Students will choose unit from drop down menu.]

Pen 1:
Length: ☐ (feet, square feet)
Width: ☐ (feet, square feet)
Area: ☐ (feet, square feet)

Pen 2:
Length: ☐ (feet, square feet)
Width: ☐ (feet, square feet)
Area: ☐ (feet, square feet)

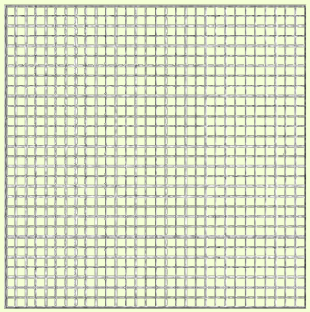
Pen 3:
Length: ☐ (feet, square feet)
Width: ☐ (feet, square feet)
Area: ☐ (feet, square feet)

Part B

Ms. McCrary wants her rabbit to have more than 60 square feet of ground area inside the pen. She finds that if she uses the side of her house as one of the sides of the rabbit pen, she can make the rabbit pen larger.

- Draw another rectangular rabbit pen.
- Use all 24 feet of fencing for 3 sides of the pen.
- Use one side of the house for the other side of the pen.
- Make sure the ground area inside the pen is greater than 60 square feet.

Use the grid below. Click the places where you want the corners of your rectangle to be. If you make a mistake, click on your rectangle to delete it.



Use your keyboard to type the length and width of each rabbit pen you draw. Then type the area of each rabbit pen. Be sure to select the correct unit for each answer.

Length: ☐ (feet, square feet)
Width: ☐ (feet, square feet)
Area: ☐ (feet, square feet)

Performance Task

Student Directions:

Part 1 (35 minutes)
Your assignment:
You will read a short story and article, watch a video, review research statistics, and then write an argumentative essay about your opinion on virtual schools.

Steps you will be following:
In order to plan and compose your essay, you will do all of the following:

1. Read a short story and article, watch a video, and review research statistics.
2. Answer three questions about the sources.
3. Plan and write your essay.

Directions for beginning:
You will now read the sources and watch a video. Take notes, because you may want to refer back to your notes while writing your essay. You can refer back to any of the sources as often as you like.

- (short story)
- (article 1)
- (video)
- (research statistics)

Questions
Use your remaining time to answer the questions below. Your answers to these questions will be scored. Also, they will help you think about the sources you've read and viewed, which should help you write your essay. You may click on the appropriate buttons to refer back to the sources when you think it would be helpful. You may also refer to your notes. Answer the questions in the spaces provided below them.

1. Analyze the different opinions expressed in "The Fun They Had" and the "Virtual High School Interview" video. Use details from the story and the video to support your answer.

2. What do the statistics from "Keeping Pace with K–12 Online Learning" suggest about the current trends of virtual schools in the U.S.? Use details from the charts to support your answer.

3. Explain how the information presented in the "Virtual High School Interview" video and the article "Virtual Schools Not for Everyone" differs from the information in the research statistics? Support your answers with details from the video and the articles.

Part 2 (85 minutes)
You will now have 85 minutes to review your notes and sources, and to plan, draft, and revise your essay. You may also refer to the answers you wrote to the questions in part 1, but you cannot change those answers. Now read your assignment and the information about how your essay will be scored, then begin your work.

Your Assignment
Your parents are considering having you attend a virtual high school. Write an argumentative essay explaining why you agree or disagree with this idea. Support your claim with evidence from what you have read and viewed.

Performance Tasks

- Measure complex assessment targets
- Demonstrate ability to think and reason
- Higher-order skills
- Produce fully developed writing or speeches
- Provide evidence of college and career readiness
- Integrate knowledge and skills
- Measure understanding, research skills, analysis, and the ability to provide relevant evidence

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Technology-Enabled

Selected or Constructed Responses that include Multimedia

Brianna is running for class president. She needs to give a speech to the 4th grade class.
Listen to the draft of her speech and then answer the questions that follow.

> *(Test-takers listen to an audio version of the following speech.)*
> "Hi, My name is Brianna. I am running for class president, and I hope you will vote for me. You know many of my friends said they would. I am involved in many activities, including track and theater. If I am elected, I will hold several fundraisers so that all students in the 4th grade can go on a trip at the end of the year. Also, we can donate a portion of the money to a charity of our choice. If you want a class president who will work hard for you and listen to your needs, please vote for me next week!"

This speech needs to be revised before the student presents it.
Which sentence should be omitted to improve the speech.

A. I am running for class president, and I hope you will vote for me.
B. You know many of my friends said they would.
C. If I am elected, I will hold several fundraisers so that all students in the 4th grade can go on a trip at the end of the year.
D. If you want a class president who will work hard for you and listen to your needs, please vote for me next week!"

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Technology-Enhanced

Collects Evidence through a Non-Traditional Response

Below is a poem, a sonnet, in which the speaker discusses her feelings about a relationship.
Read the poem and answer the question that follows.

Remember
by Christina Rossetti
Remember me when I am gone away,
Gone far away into the silent land;
When you can no more hold me by the hand,
Nor I half turn to go yet turning stay.
Remember me when no more day by day
You tell me of our future that you plann'd:
Only remember me; you understand
It will be late to counsel then or pray.
Yet if you should forget me for a while
And afterwards remember, do not grieve:
For if the darkness and corruption leave
A vestige* of the thoughts that once I had,
Better by far you should forget and smile
Than that you should remember and be sad.

In the sonnet "Remember," which two lines reveals a change in the speaker's message to her subject?

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Do you believe that the SBAC assessments should impact your instruction?

If students have to… (know and be able to do)	Then teachers have to…
Types of assessment questions	
ELA Claims	
Math Claims	
Depths of Knowledge	
Other (Technology…)	

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English Language Arts Content Specifications, Item Specifications, and Depth of Knowledge

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Structure of the the SBA items/tasks Connecting to The Montana Standards

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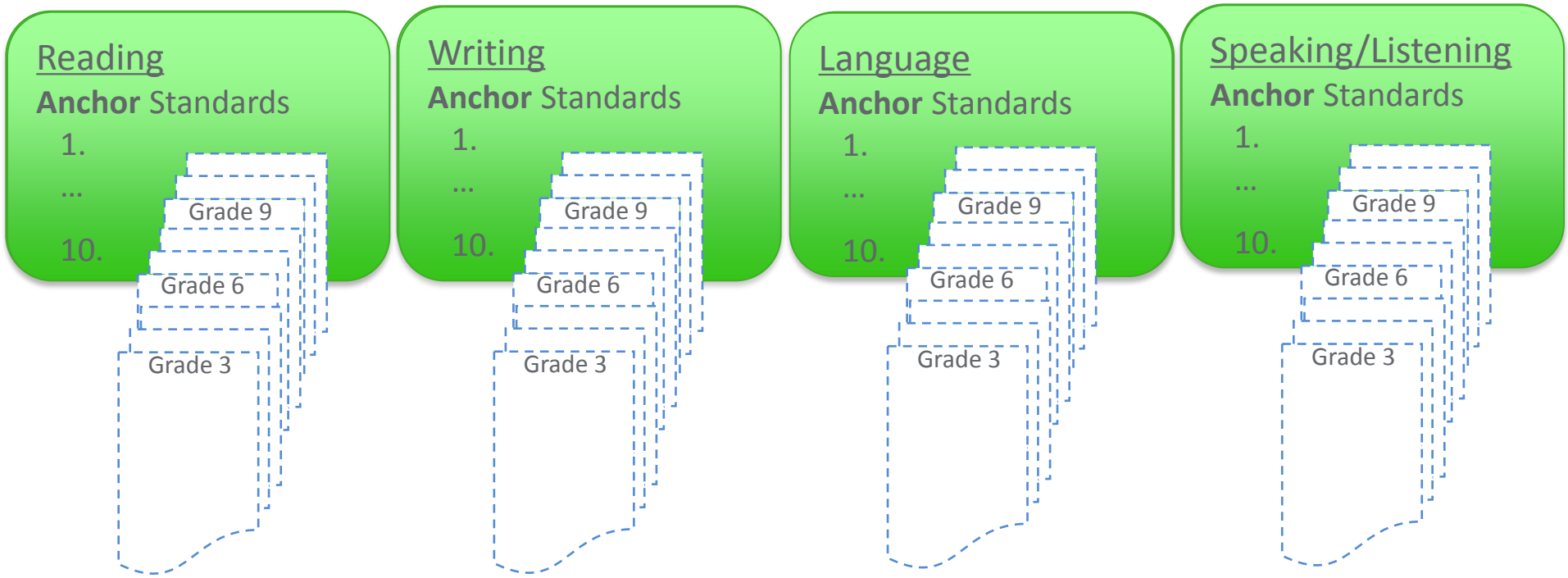
Structure of the Common Core State Standards

- Strands
  - College and career readiness anchor standards
    - Grade-specific standards



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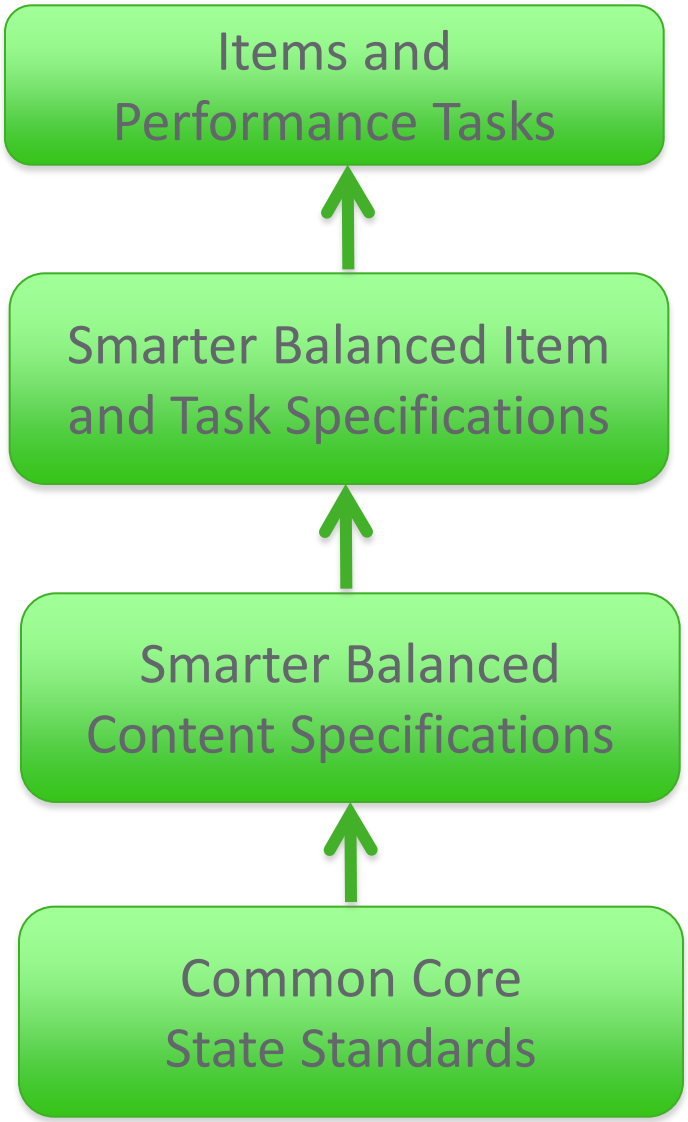
Foundation for Item and Task Development



Alignment to Claims and Assessment Targets, Primary Claims & Secondary Claims

- **Common Core State Standards**: foundation for claims and assessment targets
- **Smarter Balanced Content Specifications**: define claims and assessment targets
  - Depth of Knowledge: Level of cognitive processes applied by students
- **Smarter Balanced Item and Task Specifications**: define evidence required and describe task models

Item Specifications

Item Specification
Content: English Language Arts
Grade: *11*
C1 T14

Claim 1: Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.	
Target 14: LANGUAGE USE: Analyze the figurative (e.g., euphemism, oxymoron, hyperbole, paradox) or connotative meanings of words and phrases used in context and the impact of these word choices on meaning and tone	
Standards:	**RI-4, L-5a**
Evidence required:	When reading informational or argumentative texts, students analyze the figurative or implied meanings of words or phrases as they are used in a text and analyze how the choice of these particular words affects meaning and tone.
DOK target(s):	3
Allowable item types*:	CR
Task Models:	*Model 1: 3-pt CR (DOK 3) — prompts students to identify an example of figurative language, explain the meaning, and describe how it affects meaning and tone.* *Model 2: 3-pt CR (DOK 3) — prompts students to explain the meaning of a figurative word or phrase and evaluate why an author most likely chose to use that particular word or phrase.* *Model 3: 3-pt CR (DOK 3) — prompts students to explain how a particular figurative word or phrase supports the persuasive purpose of an argumentative text.*
Key non-targeted constructs:	None
Allowable stimulus materials:	Informational texts
Allowable disciplinary vocabulary:	Figurative language, connotation, denotation, allusions, irony, euphemism, oxymoron, hyperbole, paradox
Allowable tools:	Word processing tools including spell check
Target specific attributes:	Stimulus text should be on grade level.
Accessibility concerns:	For CR items, students will be required to enter text using a keyboard.
Sample items:	Hot links will provide sample items for this target.
Scoring Information:	Rubric: 3-point CR item-specific rubrics

*SR = selected response item; CR = constructed response item; TE = technology-enhanced item; PT = performance task;

What is a claim?

"**Claims**" are the broad statements of the assessment system's **learning outcomes**, each of which **requires evidence** that articulates the **types of data/observations** that will support interpretations of **competence** towards **achievement** of the claims

Claims are found in both ELA and Math

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Assessment Targets (evidence)

- Describe the expectations of what will be assessed by the items and tasks within each claim.
- Prioritized content
- Shows how one or more of the Common Core State Standards (or parts of standards) address the target

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The Smarter Balanced Assessment Consortium English Language Arts Content Specifications

- **Claim 1: Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts. Reading, literary and informational text**.
- Claim 2: Students can produce effective and well grounded writing for a range of purpose and audiences.
- Claim 3: Students can employ effective speaking and listening skills for a range of purposes and audiences.
- Claim 4: Students can engage in research/inquiry to investigate topics, and to analyze, integrate, and present information.

Claim 1

- Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.

    1. Targets 1–7 correspond with literary texts
    2. Targets 8–14 correspond with informational texts
    3. The assessment targets incorporate the content clusters from the Common Core State Standards

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Grade 4 Claim 1

- Read the sentences from the passage. Then answer the question.

- “My grandma pulled the ball out, unwrapped it, and held it out for us to see. The ball was scarred almost beyond recognition. It had dog bite marks, dirt scuffs, and fraying seams. Right in the middle was a big signature in black ink that I had somehow overlooked. It was smudged now and faded, but it still clearly said ‘Babe Ruth.’ I began to shake inside.”

- Click on two phrases from the paragraph that help you understand the meaning of scarred.

Read this part of the text again.

"It turns out my mother loved the name Ruth. That's how I got my name and how my father got these: he let Ty Cobb name me after Babe Ruth."

I tried to swallow but couldn't. I hoped that she wasn't going to say what I thought she was going to say.

Then she said it.

"In this shoebox are the ten baseballs Ty Cobb gave my father. They are signed by some of the most famous ballplayers in history, including one that has one single signature on it: Babe Ruth's."

My grandma pulled the ball out, unwrapped it, and held it out for us to see. The ball was scarred almost beyond recognition. It had dog bite marks, dirt scuffs, and fraying seams. Right in the middle was a big signature in black ink that I had somehow overlooked. It was smudged now and faded, but it still clearly said "Babe Ruth." I began to shake inside.

But my grandma just looked at the ball and smiled sweetly. She said softly, "Even though it doesn't look like much, this ball has brought our family a lot of joy in its time. I remember when I was your age, Naomi, I almost rubbed the signature right off from tossing it up and down all the time. You see, I've always felt that a baseball should be used for a lot more than looking. My dad, your great-grandfather, used to say the same thing."

Select three sentences that show that Naomi is worried she has done something wrong.

Recommended Placement for Assessment: Grade 7

The quantitative Lexile measure suggests an appropriate placement at the grade 4–5 band. The Flesch-Kincaid of 7.4 suggests the 6–8 band. The qualitative measures, especially the levels of complexity and the subject matter, support placement at grade 7. **Based on these sets of measures, this passage is recommended for assessment at grade 7.**

Qualitative Measures

Meaning/Purpose:

Moderately Complex: Purpose of the text is not explicitly stated but can be inferred by the end of the passage.

Text Structure:

Very Complex: Ideas shift frequently between people upon which the information is focused. Text starts and ends with two sisters, suggesting that the purpose is to describe their lives when it's more general than that.

Language Features:

Moderately Complex: Text uses familiar words that are on grade level. The use of abbreviations and discipline-specific language increases the complexity, but a general understanding of the use of abbreviations and aircraft allows students to access the information.

Quantitative Measures

Common Core State Standards Appendix A Complexity Band Level (if applicable): 4–5, based on the Lexile but 6-8 based on qualitative measures

Lexile or Other Quantitative Measure of the Text:

Lexile (approximate): 930 (grades 4-5)

Flesch-Kincaid: 7.4

Considerations for Passage Selection

Passage selection should be based on the ELA Content Specifications targets and the cognitive demands of the assessment tasks.

Potential Challenges a Text May Pose:

- Accessibility
- Language challenges
- Background knowledge

Assessment Targets for Reading

Literary	Informational
Key details	Key details
Central Ideas	Central Ideas
Word Meaning	Word Meaning
Reasoning and Evaluation	Reasoning and Evaluation
Analysis within and across text	Analysis within and across text
Text Stimulus and features	Text structures and features
Language Use	Language Use

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Claim 2

- **Students can produce effective and well grounded writing for a range of purpose and audiences.**
  - Targets 1, 3, & 6: Revise/Write Brief Texts
  - Targets 2, 4, & 7: Compose Full Texts including essays and narratives
  - Target 5: Use of text features, e.g., headings, subheadings, etc.
  - Target 8: Language & Vocabulary Use
  - Target 9: Edit/Clarify
  - Target 10:Technology

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Claim 2 - Writing

- A combination of shorter and longer writing assessment items/tasks collectively assess the ability of students to demonstrate their rhetorical skills and knowledge, including:
- (1) address purpose and audience (setting a context – topic, question(s) to be answered, and establishing **a focus**/thesis/claim;
- (2) organize and develop Ideas using a structure consistent with purpose (providing overall coherence using **organizational** patterns and transitions to connect and advance central ideas;
- (3) provide supporting **evidence**/details/elaboration consistent with focus/thesis/claim;
- (4) use **language** effectively (including word choice, sentence variety, precise/nuanced language, domain-specific language, and voice); and (5) apply conventions of Standard English.

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The following is a rough draft of a paragraph that a student is writing for the school newspaper about why there should be a longer school day. The draft needs more details to support the student's reasons for having a longer school day.

Why There Should Be a Longer School Day

Schools should have a longer school day for students. First, students could learn more about different subjects if the school day were longer. Also, students could get extra help from teachers. More hours in class each day would also mean more vacations scattered throughout the year!

Now look at the following daily schedule for a school that has switched to a longer school day.

8:00	Morning Announcements
8:20	Reading Language Arts
9:30	Foreign Language
10:30	Morning Recess
10:45	Mathematics
11:45	Lunch
12:45	History
1:45	Art or Music
2:15	Afternoon Recess
2:45	Science
3:30	Homework Preparation
3:45	After-School Tutoring or Sports

Revise the paragraph by adding details from the daily schedule that help support the reasons for having a longer school day.

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Writing dispositions/ habits of mind

- Engagement through making connections among ideas;
- Persistence to grapple with challenging ideas and texts;
- Responsibility to incorporate ideas of others, giving proper attribution;
- Flexibility of approaches and styles to match purpose; and utilizing metacognitive skills to reflect on their development as writers.

Scoring Information

- **How your essay will be scored**:
  The people scoring your essay will be assigning scores for:
  - **Statement of purpose/focus**—how well you clearly state your claim on the topic, maintain your focus, and address the alternate and opposing claims
  - **Organization**—how well your ideas logically flow from the introduction to conclusion using effective transitions, and how well you stay on topic throughout the essay
  - **Elaboration of evidence**—how well you provide evidence from sources about your opinions and elaborate with specific information
  - **Language and Vocabulary**—how well you effectively express ideas using precise language that is appropriate for your audience and purpose
  - **Conventions**—how well you follow the rules of usage, punctuation, capitalization, and spelling

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Claim 3

- **Students can employ effective speaking and listening skills for a range of purposes and audiences.**

    1. **Language & Vocabulary Use**
    2. **Clarify Message**
    3. **Plan/Speak/Present**
    4. **Listen/Interpret**

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Claim 4

- **Students can engage in research / inquiry to investigate topics, and to analyze, integrate, and present information.**

1. Plan/Research

2. Interpret & Integrate Information (Elem)

Analyze/integrate (6-11)

3. Analyze Information/Sources

4. Use Evidence

5. Language & Vocabulary Use

6. Edit/Clarify

7. Technology

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Significant Assessment Shifts

- Performance Tasks
  - Close Reading
  - Informational Text
  - Analytical Writing
- Technology Enhanced Questions

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Do you believe that the SBAC assessments should impact your instruction?

If students have to… (know and be able to do)	Then teachers have to…
Types of assessment questions	
ELA Claims	
Math Claims	
Depths of Knowledge	
Other (Technology…)	

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Math

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Mathematics Assessment Claims

- Claim 1: Concepts and Procedures
  - Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency
- Claim 2: Problem Solving
  - Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies
- Claim 3: Communicating Reasoning
  - Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others
- Claim 4: Modeling and Data Analysis
  - Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems

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Claim 1 Assessment Targets
Grade 8

The Number System

A. Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations

B. Work with radicals and integer exponents.
C. Understand the connections between proportional relationships, lines, and linear equations.
D. Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions

E. Define, evaluate, and compare functions.
F. Use functions to model relationships between quantities.

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Claim 1 Assessment Targets
Grade 8

Geometry

G. Understand congruence and similarity using physical models, transparencies, or geometry software.
H. Understand and apply the Pythagorean theorem.
I. Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

Statistics and Probability

J. Investigate patterns of association in bivariate data.

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Claim 1 Assessment Targets
Grade 11

Number and Quantity

A. Extend the properties of exponents to rational exponents.
B. Use properties of rational and irrational numbers.
C. Reason quantitatively and use units to solve problems.

Algebra

D. Interpret the structure of expressions.
E. Write expressions in equivalent forms to solve problems.
F. Perform arithmetic operations on polynomials.
G. Create equations that describe numbers or relationships.
H. Understand solving equations as a process of reasoning and explain the reasoning.
I. Solve equations and inequalities in one variable.
J. Represent and solve equations and inequalities graphically.

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Claim 1 Assessment Targets
Grade 11

Functions

K. Understand the concept of a function and use function notation.
L. Interpret functions that arise in applications in terms of a context.
M. Analyze functions using different representations.
N. Build a function that models a relationship between two quantities.

Geometry

O. Prove geometric theorems.

Statistics and Probability

P. Summarize, represent and interpret data on a single count or measurement variable.

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Claim 1
Concepts and Procedures

Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.

Grade Level	Number of Assessment Targets
3	11
4	12
5	11
6	10
7	9
8	10
11	16

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Claim 1
Concepts and Procedures

Grade 4

Operations and Algebraic Thinking

Target A [m]: Use the four operations with whole numbers to solve problems. (DOK 1, 2)

Tasks for this target will require students to use the four operations to solve straightforward, one-step contextual word problems in situations involving equal groups, arrays, and finding an unknown number, including problems where the remainder must be interpreted. Some of these tasks will draw on contexts in 4.MD Target I using measurement quantities such as time, liquid volume, and masses/weights of objects, and money (with decimal representations limited to those described in standards 4.NF.6 and 4.NF.7).

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Grade 3

Key: Major Clusters; Supporting Clusters; Additional Clusters

Operations and Algebraic Thinking

- **Represent and solve problems involving multiplication and division.**
- **Understand properties of multiplication and the relationship between multiplication and division.**
- **Multiply and divide within 100.**
- **Solve problems involving the four operations, and identify and explain patterns in arithmetic.**

Number and Operations in Base Ten

- **Use place value understanding and properties of operations to perform multi-digit arithmetic.**

Number and Operations—Fractions

- **Develop understanding of fractions as numbers.**

Measurement and Data

- **Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.**
- **Represent and interpret data.**
- **Geometric measurement: understand concepts of area and relate area to multiplication and to addition.**
- **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**

Geometry

- **Reason with shapes and their attributes.**

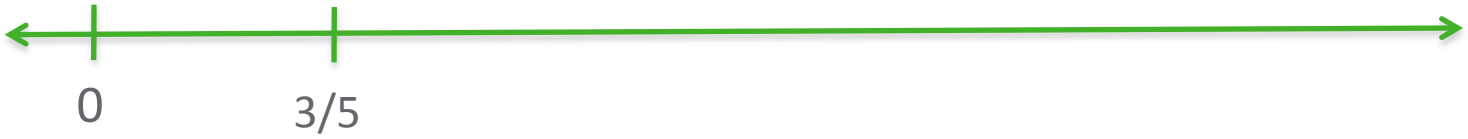
GRADE 3

Hi	75%	3.OA.B	Understand properties of mu*lti*plication and the relationship between multiplication and division	75 %
		3.OA.C	Multiply and divide within 100	
		3.MD.C	Geometric measurement: understand concepts of area and relate area to multip*l*ication and to addition	
		3.MD.A	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects	
		3.OA.D	Solve problems involving the four operations, and identify and explain patterns in arithmetic[1]	
		3.NF.A	Develop understanding of fractions as numbers	
		3.OA.A	Represent and solve problems involving multiplication and division	25 %

Lo	25%	3.NBT.A	Use place value understanding and properties of operations to perform multi-digit arithmetic	60 %
		3.G.A	Reason with shapes and their attributes	
		3.MD.B	Represent and interpret data	40 %
		3.MD.D	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures	

Claim 1: Concepts and Procedures Technology Enhanced (Grades 3 – 5)

The numbers 0 and 3/5 are shown on the number line.
Put a point on the line to represent the number 1.



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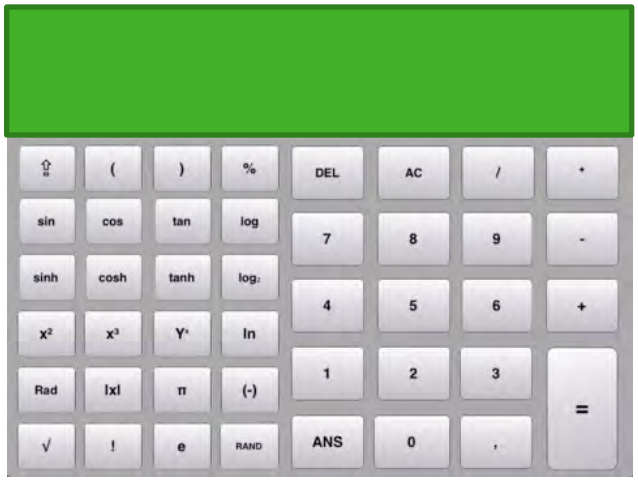
Claim 1: Concepts and Procedures
Technology Enhanced (Grades 5 – 7)

$1\ 2/7 + 5\ 3/8 = ?$

$1\ 2/7 - 5\ 3/8 = ?$

Enter a key sequence that would allow you to perform these operations on the calculator.



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Assessment Targets
Claim 2 – Problem Solving

Claim 2: Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.

A. Apply mathematics to solve well-posed problems arising in everyday life, society, and the workplace

B. Select and use tools strategically

C. Interpret results in the context of the situation

D. Identify important quantities in a practical situation and map their relationships.

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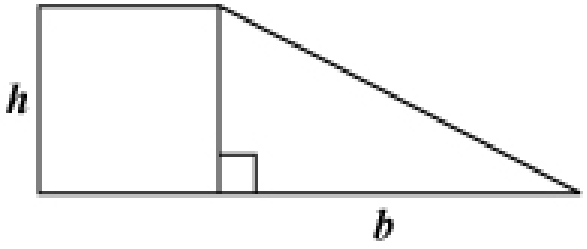
Claim 2: Problem Solving
(Grades 9 – 11)

The figure below is made up of a square with height, *h* units, and a right triangle with height, *h* units, and base length, *b* units.



The area of this fig

Write an equation for the height, *h*, in terms of *b*. Show all work necessary to justify your answer.

Assessment Targets
Claim 3 – Communicating Reason

Claim 3: Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.

A. Test propositions or conjectures with specific examples.
B. Construct, autonomously, chains of reasoning that justify or refute propositions or conjectures.
C. State logical assumptions being used.
D. Use the technique of breaking an argument into cases.
E. Distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in the argument—explain what it is.
F. Base arguments on concrete referents such as objects, drawings, diagrams, and actions.
G. Determine conditions under which an argument does and does not apply.

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Claim 3: Communicating Reasoning Constructed Response (Grades 3 – 5)

A tent is 8 feet by 10 feet. A sleeping bag is 3 feet by 6 feet. A camper says that 4 sleeping bags will fit in the tent because 18 + 18 + 18 + 18 = 72. The tent is 80 square feet, so there is enough space.

a. Is the camper correct? _____

b. Explain.

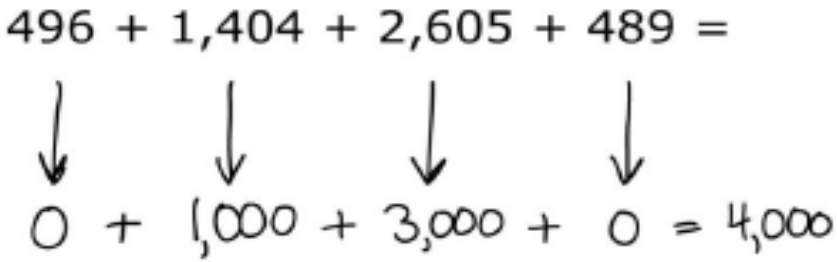
Claim 3: Communicating Reasoning

Constructed Response (Grades 3 – 5)

A teacher asked her students to use estimation to decide if the sum of the problem below is closer to 4,000 or 5,000.

$$496 + 1{,}404 + 2{,}605 + 489 =$$

One student replied that she thinks the sum is closer to 4,000. She used the estimation shown below to support her reasoning.



Is the student's reasoning correct? In the space below, use numbers and words to explain why or why not. If the student's reasoning is not correct, explain how she should have estimated.

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Multi-Claim Evidence
Constructed Response (Grades 7 – 8)

In a sale, all prices are reduced by 25%.

1. Julie sees a jacket that cost $32 before the sale. How much does it cost in the sale? Show your calculations.

In the second week of the sale, the prices are reduced by 25% of the previous week's price. In the third week of the sale, the prices are again reduced by 25% of the previous week's price. In the fourth week of the sale, the prices are again reduced by 25% of the previous week's price.

2. Julie thinks this will mean that the prices will be reduced to $0 after the four reductions because 4 x 25% = 100%. Explain why Julie is wrong.

3. If Julie is able to buy her jacket after the four reductions, how much will she have to pay? Show your calculations.

4. Julie buys her jacket after the four reductions.

What percentage of the original price does she save? Show your calculations.

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Assessment Targets
Claim 4 – Modeling and Data Analysis

Claim 4: Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.

A. Apply mathematics to solve problems arising in everyday life, society, and the workplace.
B. Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem.
C. State logical assumptions being used.
D. Interpret results in the context of a situation.
E. Analyze the adequacy of and make improvement to an existing model or develop a mathematical model of a real phenomenon.
F. Identify important quantities in a practical situation and map their relationships.
G. Identify, analyze, and synthesize relevant external resources to pose or solve problems.

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What else?

Smarter Balanced Blueprints…

PRELIMINARY TEST BLUEPRINTS

What is a Blueprint?

All valid and valued assessments are content driven. Successful completion of the assessment development process requires deep understanding of the knowledge, skills, and abilities that are measured on an assessment, and how these are derived from the content standards upon which the assessment is based. Not only is understanding of the specific content important, developers and users must also know the relative weighting among the various content strands to be included on the assessment, the item types used to measure each strand, and other key factors such as depth of knowledge spread within and across strands/standards/indicators.

Specifically, a test blueprint is a formal document that guides the development and assembly of an assessment by explicating the following essential information:

- **Content** (standards, indicators, claims) that is to be included for each assessed content area and grade, across various levels of the system (student, classroom, school, district, state);
- **Emphasis and Balance** of content, generally indicated as number of items or percentage of points per standard and indicator;
- **Item Types**, sending a clear message to item developers how to measure each standard and indicator, and to teachers and students about learning expectations; and
- **Depth of Knowledge (DOK)**, indicating the complexity of item types for each standard or indicator.[1]

The test blueprint is essential for both assessment developers and for those responsible for curriculum and instruction. For assessment developers, the blueprint (and related test specifications documents) declares how the test will ensure coverage of the full breadth and depth of content and how it will maintain fidelity to the intent of the content standards on which the assessment is based. Full alignment is necessary if educational stakeholders are to make valid, reliable, and unbiased inferences at the student, classroom, school, and state levels.

For those responsible at the instructional level, the test blueprint provides a guide to the relative importance of competing content demands and suggests how the content is intended to be demonstrated, as indicated by item type and depth of knowledge. For example, standards and assessment targets that are shown to be assessed with items at lower levels of DOK require different instructional methods than content assessed at higher levels of DOK.

ELA/Literacy Preliminary Summative Assessment Blueprint
Blueprint Table ELA/Literacy Grades 6-8—Table 3b

Estimated Total Testing Time: 3:30 (without classroom component)

Claim	Content Category	Stimuli		Scored Tasks		Total CAT Items by Claim	Approximate Weight for Each Claim within Total Test
		CAT	PT	CAT Items	PT Ratings		
1. Reading	Literary	1	0	4-6	0	12-16	TBD
	Informational	1-2	0	8-10			
2. Writing	Purpose/Focus/Organization	0	1a	2-3	1	7-10	TBD
	Evidence/Elaboration	0		2-3	1		
	Conventions	0		3-4	1		
3. Speaking/Listening	Listening	2	0	8-10	0	8-10	TBD
4. Research	Research	0	1b	5-6	3	5-6	TBD

NOTES:

- All times are estimates. Actual time may vary widely.
- Each student receives 1 PT which includes a set of stimuli on a given topic.
- The CAT component of the test includes selected-response items (SRs) and constructed-response items (CRs); some of these items will be technology enhanced. The PT includes 3 research items (SRs and/or CRs) and 1 constructed-response essay that is scored across 3 categories: Purpose/Focus/Organization, Evidence/Elaboration, and Conventions.
- Each student receives an overall ELA score and claim scores at the individual level.
- Performance Task stimuli 1a and 1b reflect a single stimulus used to reflect Writing (1a) and Research (1b).

The Performance Task

- The PT involves significant interaction of students with stimulus materials and/or engagement in a problem solution ultimately leading to an exhibition of the students' application of knowledge and skills, often in writing or spoken language.
- A key component of college and career readiness is the ability to integrate knowledge and skills across multiple [content] standards. Smarter will address this ability through performance tasks because it cannot be adequately assessed with selected or constructed response items.

Do you believe that the SBAC assessments should impact your instruction?

If students have to… (know and be able to do)	Then teachers have to…
Types of assessment questions	
ELA Claims	
Math Claims	
Depths of Knowledge	
Other (Technology…)	

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MAT.05.TE.2.000NF.A.003 Claim 2

Sample Item ID:	MAT.05.TE.2.000NF.A.003
Grade:	05
Primary Claim:	**Claim 2: Problem Solving** Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.
Secondary Claim(s):	Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.
Primary Content Domain:	Numbers and Operations—Fractions
Secondary Content Domain(s):	
Assessment Target(s):	2 A: Apply mathematics to solve well-posed problems in everyday life, society, and the workplace. 1 F: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Standard(s):	5.NF.4, 5.NF.6
Mathematical Practice(s):	1, 2, 4, 5
DOK:	2
Item Type:	TE
Score Points:	2
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	Requires both TE tiling and AI scoring.

What is DOK?

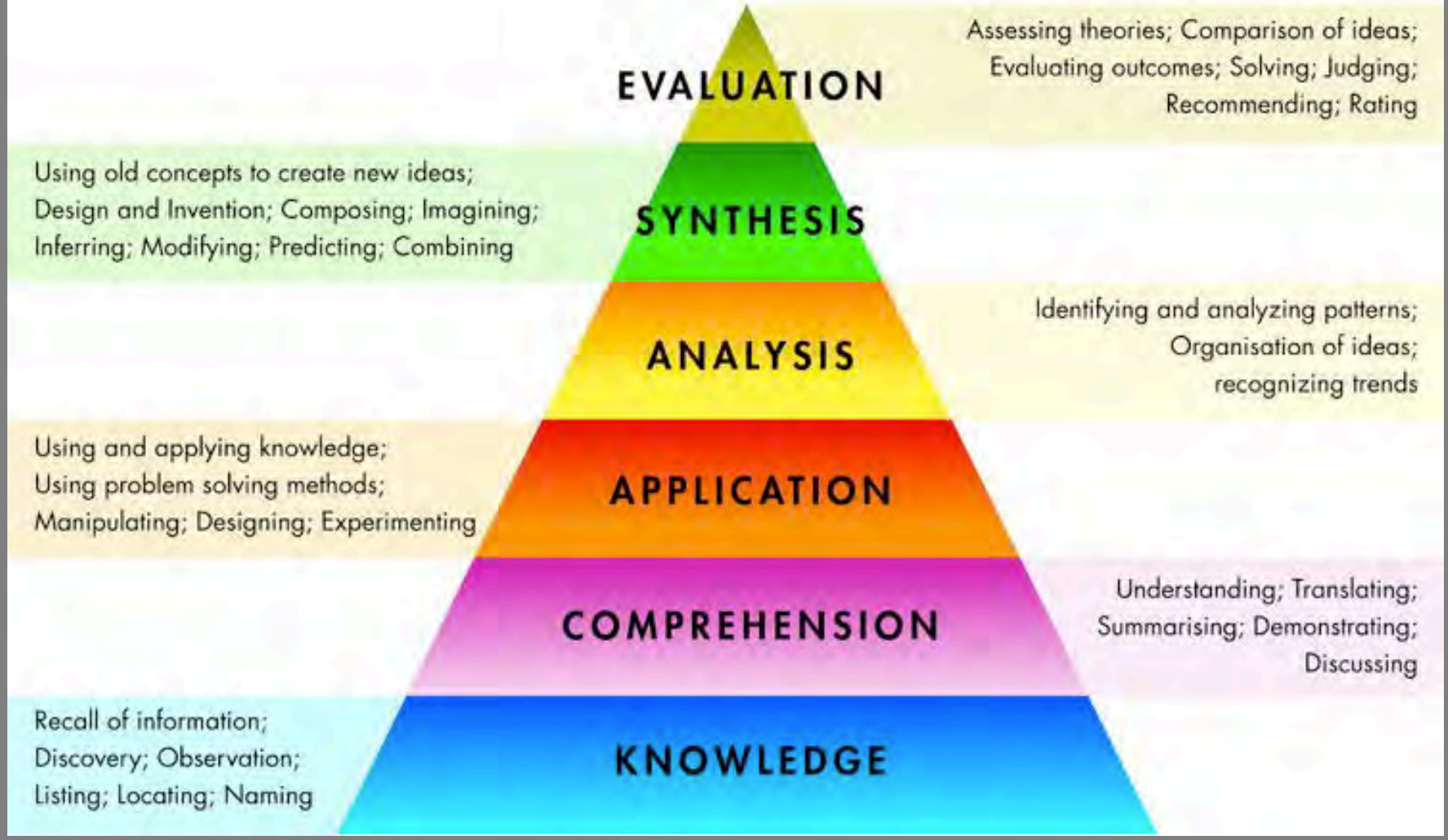
Cognitive Rigor Matrix

Bloom’s Taxonomy

Bloom's Taxonomy of Action Verbs

Definitions	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Bloom's Definition	Remember previously learned information.	Demonstrate an understanding of the facts.	Apply knowledge to actual situations.	Break down objects or ideas into simpler parts and find evidence to support generalizations.	Compile component ideas into a new whole or propose alternative solutions.	Make and defend judgments based on internal evidence or external criteria.
Verbs	• Arrange • Define • Describe • Duplicate • Identify • Label • List • Match • Memorize • Name • Order • Outline • Recognize	• Classify • Convert • Defend • Describe • Discuss • Distinguish • Estimate • Explain • Express • Extend • Generalized • Give example(s) • Identify	• Apply • Change • Choose • Compute • Demonstrate • Discover • Dramatize • Employ • Illustrate • Interpret • Manipulate • Modify • Operate	• Analyze • Appraise • Breakdown • Calculate • Categorize • Compare • Contrast • Criticize • Diagram • Differentiate • Discriminate • Distinguish • Examine	• Arrange • Assemble • Categorize • Collect • Combine • Comply • Compose • Construct • Create • Design • Develop • Devise • Explain	• Appraise • Argue • Assess • Attach • Choose • Compare • Conclude • Contrast • Defend • Describe • Discriminate • Estimate • Evaluate

BLOOMS TAXONOMY

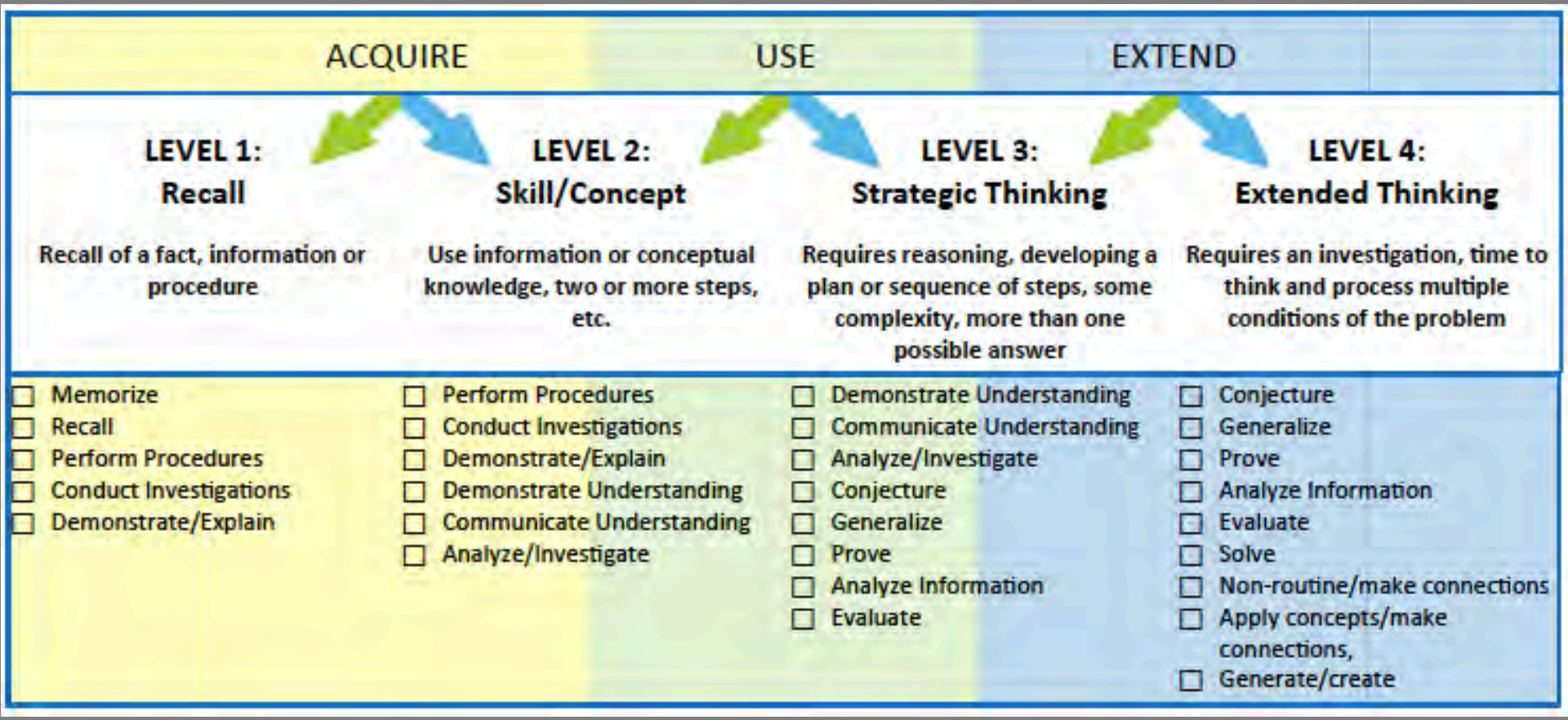


Norman Webb

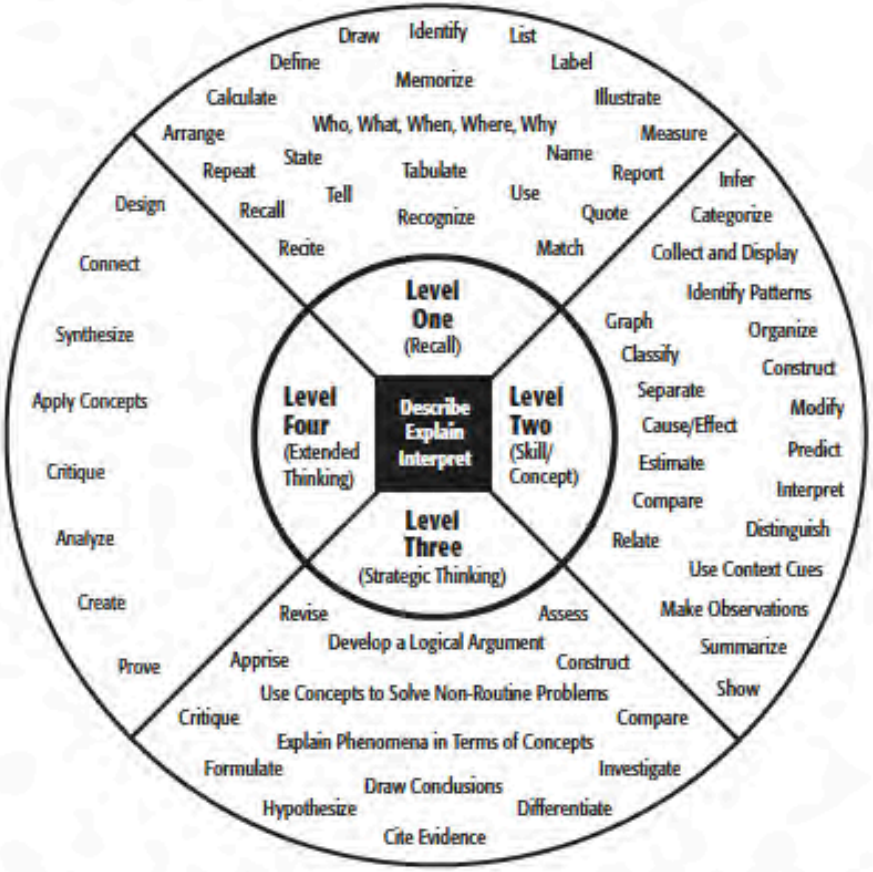
Webb's Depth of Knowledge Levels

1. **Recall & Reproduction** – Memorize something whether simple or complex
2. **Basic Application** -- Acting on the information in some way, need to understand relationships
3. **Strategic Thinking**– Need reasoning and planning for a strategy; non-routine; drawing on prior knowledge; not one right answer, but multiple ways to get to the answer or multiple answers
4. **Extended Thinking** – Have to synthesize information from multiple texts, and then put together presentation in a unique way.

Webb, N. L. (March 28, 2002) "Depth-of-Knowledge Levels for Four Content Areas." Retrieved December 1, 2011 from http://www.wcer.wisc.edu/news/coverstories/aligning_assessments_and_standards.php.



South Dakota Department of Education



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

Bloom:

type of thinking (verbs) to complete a task?

DOK is not about difficulty but about *complexity*.

Webb (DOK) :

How deeply do you have to understand the content to successfully interact with it?

Example of the difference between Bloom's and DOK:

Use of the word *describe*

Describe the parts of the water cycle.

Describe the differences and similarities between invertebrates and vertebrates.

Describe the effects of the plague on Europe in the 14th century.

An example: Students are asked to…

-describe a concept.

DOK 1

-explain how or why the concept works.

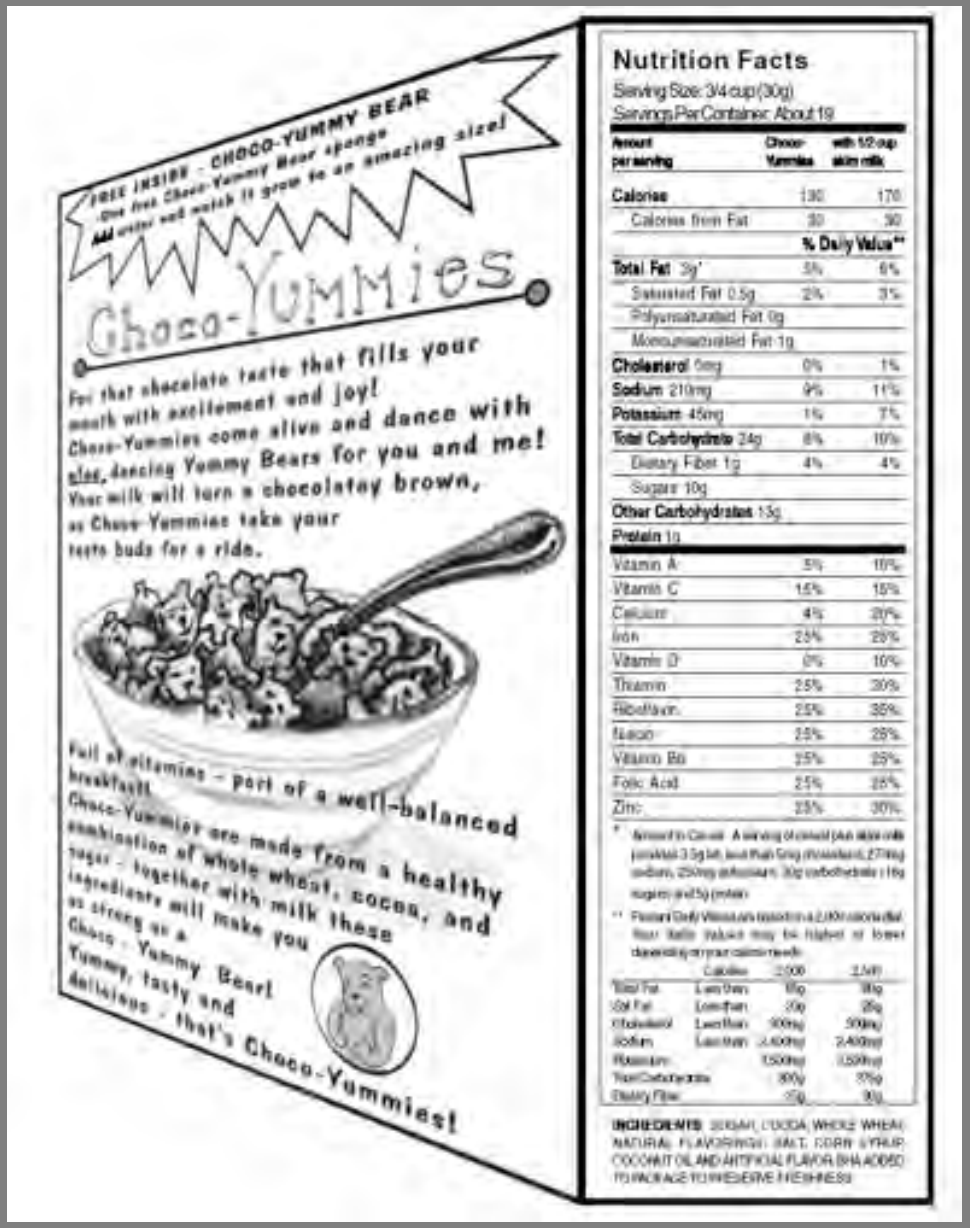
DOK 2

-apply the concept to a real world phenomena with supporting evidence.

DOK 3

-integrate the concept with other concepts or perspectives.

DOK 4



Which is true according to the Nutrition Facts chart?

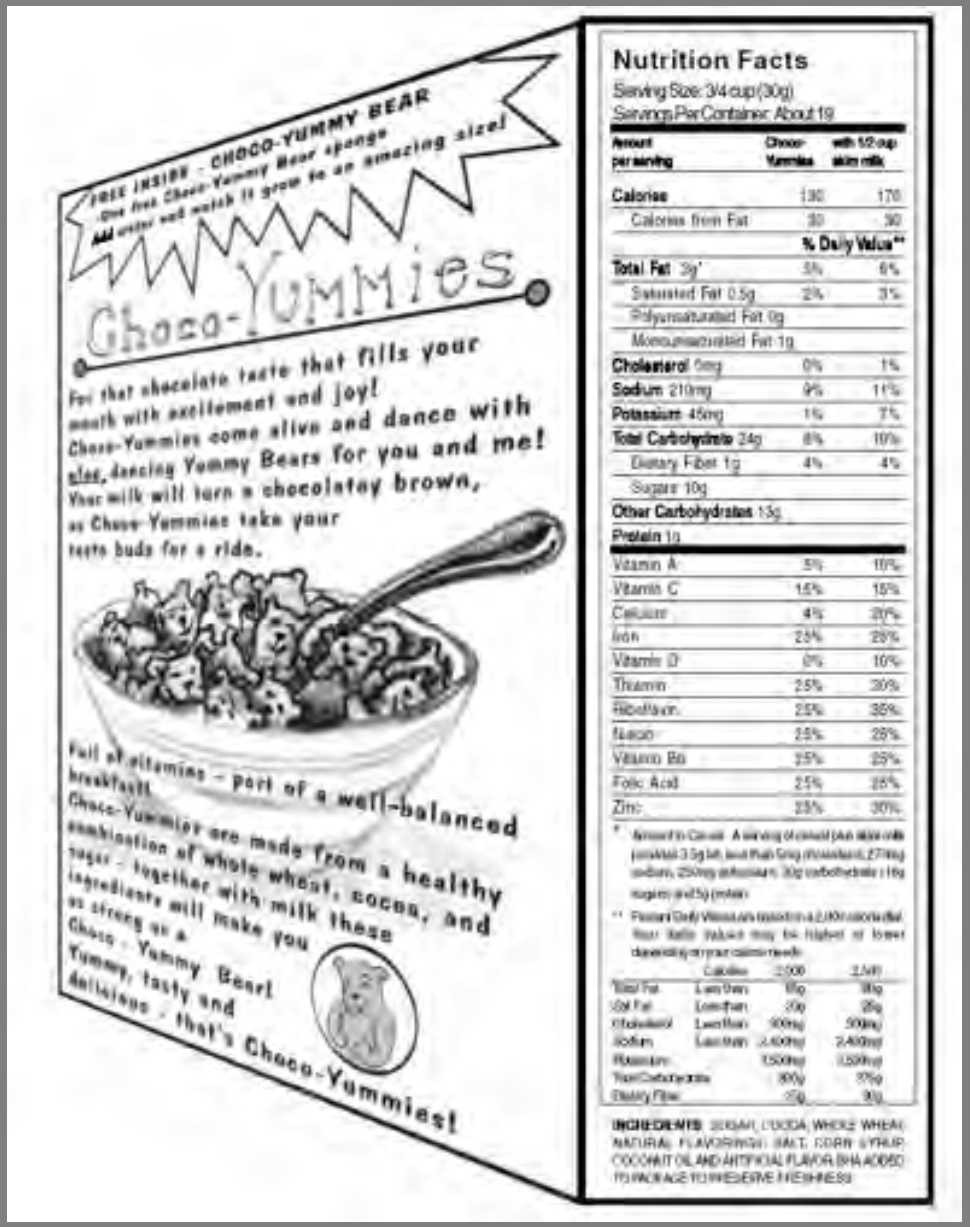
A. Brown sugar is listed as an ingredient.

B. Servings have 25 grams of carbohydrates.

C. There are about 19 servings in each box.

D. There is more vitamin D than niacin.

DOK 1



Which statement below is a fact?

A.Yummy, tasty, and delicious—that's Choco-Yummies!

B.Choco-Yummies are low in fat and sugar.

C.Choco-Yummies contain 3 grams of fat.

D.Every bite is full of fun and excitement.

DOK 2

On the Choco-Yummies cereal box, there are several examples of facts and opinions.

a. List TWO statements from the box that are opinions.

b. Explain how these TWO statements make customers want to buy and eat Choco-Yummies.

DOK 3

How about DOK 4?

Important

DOK is …

1. NOT Bloom's
2. NOT about difficulty (it is about complexity)
3. NOT determined by the verb but by the *depth of thinking* required

Does not equate to:

Novice

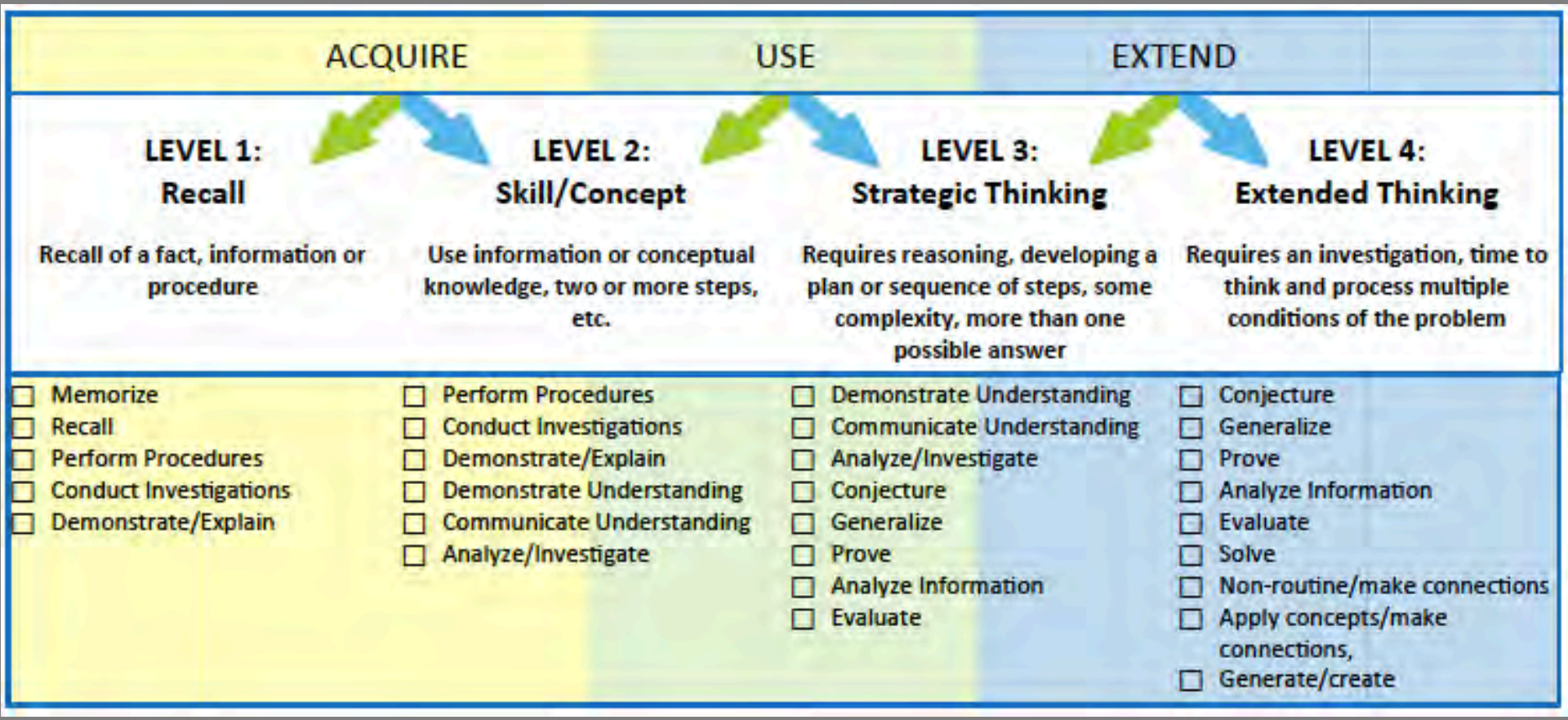
Nearing Proficient (Apprentice)

Proficient

Advanced Proficient (Distinguished)

Scoring Rubric

How DOK affects the score…



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Do you believe that the SBAC assessments should impact your instruction?

If students have to… (know and be able to do)	Then teachers have to…
Types of assessment questions	
ELA Claims	
Math Claims	
Depths of Knowledge	
Other (Technology…)	

To ponder…

"If you are teaching almost the same lessons that you have always taught, then you have not adopted the CCSS. These standards demand a new way of teaching and assessing." Tony Frontier

If you have jumped into the standards, embraced the changes…next is understanding the assessments that will identify true learning and transfer of skills and knowledge.

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Resources

Smarter Balanced Assessments

http://www.smarterbalanced.org/smarter-balanced-assessments/#item

http://www.smarterbalanced.org/wordpress/wp-content/uploads/2011/12/ELA-Literacy-Content-Specifications.pdf

Smarter Balanced Blueprints

http://www.sde.idaho.gov/site/common/commonCorePD.htm

Missouri SBA released items

http://dese.mo.gov/divimprove/assess/grade_level_resources.html

http://dese.mo.gov/divimprove/assess/sbac.html

Teaching Channel

https://www.teachingchannel.org/videos/strategies-for-student-centered-discussion

ASCD http://www.ascd.org/publications/books/107034/chapters/Student-Motivation,-Engagement,-and-Achievement.aspx

Achieve the Core

http://www.achievethecore.org

EduCore

http://educore.ascd.org/

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Connecting the SBAC to the Montana Content Standards

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